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EXAMINER	
ERB, NATHAN	

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3628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/736,268	CAMPAGNA ET AL.	
	Examiner	Art Unit	
	NATHAN ERB	3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Applicant's response to Office action was received on December 12, 2008.

3. In response to Applicant's amendment of the claims, all of the claim objections from the previous Office action are hereby withdrawn.

4. In response to the cancellation of claims 18-25, the rejection of claims 18-25 under 35 U.S.C. 112, first paragraph, from the previous Office action is hereby withdrawn.

5. In response to the cancellation of claims 24-25, the rejection of claims 24-25 under 35 U.S.C. 112, second paragraph, from the previous Office action is hereby withdrawn. However, note the new rejections under 35 U.S.C. 112, second paragraph, below in this Office action.

6. In response to Applicant's filing of the terminal disclaimer, the double patenting rejections from the previous Office action are hereby withdrawn.

7. In response to Applicant's amendment of the claims, the corresponding prior art rejections have been correspondingly amended below in this Office action.

8. Regarding the prior art rejections, Applicant argues that the prior art references fail to disclose "determining estimates of robustness, with respect to said block of printed material, for each of said algorithms in said set to determine which of said characterizing algorithms is most robust, in order to produce descriptions that match

sufficiently when said block of printed material is valid and do not match when said block of printed material is invalid." Examiner disagrees. This element/limitation is disclosed as a combination of the following disclosures:

a. Whitehouse discloses:

i. a method for generating a characterizing information descriptor for a selected block of printed material, where said printed material is to be scanned from an object and compared with said characterizing information descriptor at a location distant from where said block is printed (from this element/limitation comes the disclosure that said information being represented is a block of printed material [in this case, an address])

ii. in order to produce descriptions that match sufficiently when said block of printed material is valid and do not match when said block of printed material is invalid

b. Van Haagen et al. discloses:

determining estimates of robustness, with respect to said information being represented, for each of said algorithms in said set to determine which of said characterizing algorithms is most robust

See the rejection for claim 1 below in this Office action for specific citations to these prior art references. To paraphrase, Whitehouse establishes a postal indicium verification method in which a characteristic of a destination address (in that case, a ZIP+4 code) is encoded into the postal indicium. When the mailpiece is mailed, the postal service confirms that the postal indicium was generated for that particular

mailpiece (to the extent that the ZIP+4 code matches) by generating the ZIP+4 code from the indicium and comparing it to the ZIP+4 code from the destination address to see if they match. So, the information being represented in Whitehouse is a block of printed material (an address), and Whitehouse's method functions in order to produce descriptions (ZIP+4 codes) that match sufficiently when said block of printed material (address) is valid (matches the indicium) and do not match when said block of printed material (address) is invalid (doesn't match the indicium). Granted, Whitehouse's method is limited to the extent that a fraudulent duplicate postal indicium may be determined valid if it happens to have been duplicated from an mailpiece that happens to have been sent to the same destination ZIP+4 code that the mailpiece with the fraudulent indicium is being sent to. However, the word "sufficiently" in the above element/limitation indicates that the method does not have to be perfect. Furthermore, "in order to produce descriptions that match sufficiently when said block of printed material is valid and do not match when said block of printed material is invalid" is a statement of intended use with questionable weight as to claim interpretation. Even so, Whitehouse satisfies this element/limitation, as it certainly intends for its matching to be a reasonably useful means of determining whether or not an indicium/mailpiece combination is valid.

Regarding Van Haagen et al., this reference includes a disclosure of a method of determining the best, most robust, barcode format to use based on a simulation of readability issues, not unlike Applicant's method of determining robustness. Therefore, Van Haagen et al. discloses "determining estimates of robustness, with respect to said

information being represented, for each of said algorithms in said set to determine which of said characterizing algorithms is most robust" (in Van Haagen et al., the algorithms would be the algorithms for generating the respective barcodes from the information being represented by the barcodes).

9. Applicant further argues that the prior art does not disclose an unknown that contains information about an algorithm that is used to determine which characterizing algorithm is most robust in order to produce descriptors that match sufficiently when the block of printed material is valid and do not match when the block of printed material is invalid. However, from the above discussion, it is clear that Whitehouse provides disclosure of a matching method for determining validity of a block of printed material (an address) for a mailpiece, while Van Haagen et al. provides disclosure of an organized method for testing and measuring robustness as a way to determine a best algorithm for representing information. Therefore, the prior art references, in combination, do indeed disclose "an unknown that contains information about an algorithm that is used to determine which characterizing algorithm is most robust in order to produce descriptors that match sufficiently when the block of printed material is valid and do not match when the block of printed material is invalid."

Claim Rejections - 35 USC § 112

10. Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per **Claim 3**, it is unclear what is meant by the newly added language "show detection of period." It appears to be a typographical error. Therefore, claim 3 is indefinite.

As per **Claims 4-5**, these claims depend from claim 3 but do not remedy the indefiniteness problem of claim 3. Therefore, these claims are also indefinite.

Claim Rejections - 35 USC § 103

11. Claims 1-4, 6-8, 10-12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehouse, U.S. Patent No. 6,005,945, in view of Ryan, Jr. et al., U.S. Patent No. 5,871,288, in further view of Pintsov et al., U.S. Patent No. 6,385,504 B1, in further view of Van Haagen et al., U.S. Patent No. 5,675,137.

As per **Claim 1**, Whitehouse discloses:

- a method for generating a characterizing information descriptor for a selected block of printed material, where said printed material is to be scanned from an object and compared with said characterizing information descriptor at a location distant from where said block is printed (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35);

- printing said block on an object (column 22, lines 30-35; column 26, lines 40-55);

- in order to produce descriptions that match sufficiently when said block of printed material is valid and do not match when said block of printed material is invalid

(column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35).

Whitehouse fails to disclose selecting an indicium, tested and being so determined to be the optimal one to be used. Ryan, Jr. et al. discloses selecting an indicium, tested and being so determined to be the optimal one to be used (Figure 3; column 2, lines 20-30; column 2, lines 46-56; column 4, lines 1-31). Therefore, the prior art included each of the above elements claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is simply applying an iterative method to a method of generating self-validating postal indicia such that an indicium with optimal characteristics is used). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

Whitehouse and Ryan, Jr. et al. fail to disclose wherein various indicia represent various characterizing algorithms. Pintsov et al. discloses wherein various indicia represent various characterizing algorithms (column 9, line 51, through column 10, line 5). Therefore, the prior art included each of the above elements claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined

the elements as claimed by known methods (Pintsov et al. just sets out that there is more than one possible way of linking an address to an indicium, providing added choices for an indicium). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

Whitehouse, Ryan, Jr. et al., and Pintsov et al. fail to disclose applying each algorithm from a predetermined set of characterizing algorithms to generate a plurality of corresponding first characterizing information descriptors; determining estimates of robustness, with respect to said information being represented, for each of said algorithms in said set to determine which of said characterizing algorithms is most robust; and wherein an optimal descriptor is a descriptor generated by one of the algorithms and being so determined to be most robust. Van Haagen et al. discloses applying each algorithm from a predetermined set of characterizing algorithms to generate a plurality of corresponding first characterizing information descriptors (column 1, line 24, through column 2, line 26; columns 311-316); determining estimates of robustness, with respect to said information being represented, for each of said

algorithms in said set to determine which of said characterizing algorithms is most robust (column 1, line 24, through column 2, line 26; columns 311-324); and wherein an optimal descriptor is a descriptor generated by one of the algorithms and being so determined to be most robust (column 1, line 24, through column 2, line 26; columns 311-324). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is simply specifying a particular method of determining which indicium is optimal). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 2**, Whitehouse, Ryan, Jr. et al., and Pintsov et al. fail to disclose filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes; applying each algorithm from

said predetermined set of characterizing algorithms to said filtered image to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image; and for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding said first and said second descriptors to determine which of said characterizing algorithms is most robust. Van Haagen et al. further discloses filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes (column 1, line 24, through column 2, line 26; columns 311-316); applying each algorithm from said predetermined set of characterizing algorithms to said filtered image to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image (column 1, line 24, through column 2, line 26; columns 311-324); and for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding said first and said second descriptors to determine which of said characterizing algorithms is most robust (column 1, line 24, through column 2, line 26; columns 311-324). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is just getting more specific about how to determine optimum robustness). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would

still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 3**, Whitehouse further discloses where said object is a mail piece and said block of printed material represents an address (column 22, lines 30-35; column 26, lines 40-55).

As per **Claim 4**, Whitehouse further discloses where said descriptor is comprised in an indicium printed on said mail piece (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35); whereby said descriptor can be recovered from said indicium for use at said remote location (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35).

As per **Claim 6**, Whitehouse, Ryan, Jr. et al., and Pintsov et al. fails to disclose where said selected descriptor is one of said second descriptors. Van Haagen et al. further discloses where said selected descriptor is one of said second descriptors (column 1, line 24, through column 2, line 26; columns 311-324). Therefore, the prior art included each element claimed although not necessarily in a single reference. One

of ordinary skill in the art could have combined the elements as claimed by known methods (this is just using the bar code format that has been determined to be optimal). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 7**, Whitehouse further discloses where said object is a mail piece and said block of printed material represents an address (column 22, lines 30-35; column 26, lines 40-55).

As per **Claim 8**, Whitehouse further discloses where said descriptor is comprised in an indicium printed on said mail piece (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35); whereby said descriptor can be recovered from said indicium for use at said remote location (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35).

As per **Claim 10**, Whitehouse, Ryan, Jr. et al., and Pintsov et al. fail to disclose filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes; further filtering said filtered image with one or more defacing filters, said defacing filters simulating blots, smudges, failure of print elements or scanner sensors, or other, similar occasional events which can not easily be incorporated into said print/scan filter to create one or more defaced images; applying each algorithm from said predetermined set of characterizing algorithms to said filtered image and to said one or more defaced images to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image and one or more pluralities of defaced image descriptors corresponding to each of said one or more defaced images; and for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding first characterizing information descriptors with corresponding second characterizing information descriptors and with each of said one or more corresponding defaced image descriptors to determine which of said characterizing algorithms is most robust. Van Haagen et al. further discloses filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes (column 1, line 24, through column 2, line 26; columns 311-316); further filtering said filtered image with one or more defacing filters, said defacing filters simulating blots,

smudges, failure of print elements or scanner sensors, or other, similar occasional events which can not easily be incorporated into said print/scan filter to create one or more defaced images (column 1, line 24, through column 2, line 26; columns 311-316); applying each algorithm from said predetermined set of characterizing algorithms to said filtered image and to said one or more defaced images to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image and one or more pluralities of defaced image descriptors corresponding to each of said one or more defaced images (column 1, line 24, through column 2, line 26; columns 311-324); and for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding first characterizing information descriptors with corresponding second characterizing information descriptors and with each of said one or more corresponding defaced image descriptors to determine which of said characterizing algorithms is most robust (column 1, line 24, through column 2, line 26; columns 311-324). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is just getting more specific about how to determine optimum robustness). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium

is optimal). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 11**, Whitehouse further discloses where said object is a mail piece and said block of printed material represents an address (column 22, lines 30-35; column 26, lines 40-55).

As per **Claim 12**, Whitehouse further discloses where said descriptor is comprised in an indicium printed on said mail piece (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35); whereby said descriptor can be recovered from said indicium for use at said remote location (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35).

As per **Claim 14**, Whitehouse, Ryan, Jr. et al., and Pintsov et al. fails to disclose where said selected descriptor is one of said second descriptors. Van Haagen et al. further discloses where said selected descriptor is one of said second descriptors (column 1, line 24, through column 2, line 26; columns 311-324). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is just using the bar code format that has been determined to be optimal).

In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 15**, Whitehouse discloses:

- a secure indicia printing system for generating and printing an indicium on an object, said object having other material printed thereon (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35; column 26, lines 40-55);

- a printer for printing said indicium (column 22, lines 30-35; column 26, lines 40-55);

- a meter, said meter to generate indicium according to a particular descriptor, and having a communications link for receiving other information from another information source, and communicating with said printer (column 6, lines 46-65; column 14, lines 37-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35; column 26, lines 40-55);

- cryptographically authenticating said descriptor and other information (column 16, lines 19-67);

- generating said indicium to be representative of said cryptographically authenticated descriptor and information (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 16, lines 19-67; column 22, lines 30-35; column 26, lines 40-55);

- controlling said printer to print said indicium on said object (column 22, lines 30-35; column 26, lines 40-55);

- whereby said object's relationship to said indicium can be verified by regenerating said first characterizing information descriptor from said other printed material and comparing said regenerated descriptor with said descriptor recovered from said indicium, and copies of said indicium cannot easily be used without detection on other objects which do not include said other printed material (column 6, lines 46-65; column 14, line 66, through column 15, line 17; column 22, lines 30-35).

Whitehouse fails to disclose selecting an indicium, tested and being so determined to be the optimal one to be used. Ryan, Jr. et al. discloses selecting an indicium, tested and being so determined to be the optimal one to be used (Figure 3; column 2, lines 20-30; column 2, lines 46-56; column 4, lines 1-31). Therefore, the prior art included each of the above elements claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is simply applying an iterative method to a method of generating self-validating postal indicia such that an indicium with optimal

characteristics is used). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

Whitehouse and Ryan, Jr. et al. fail to disclose wherein various indicia represent various characterizing algorithms. Pintsov et al. discloses wherein various indicia represent various characterizing algorithms (column 9, line 51, through column 10, line 5). Therefore, the prior art included each of the above elements claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (Pintsov et al. just sets out that there is more than one possible way of linking an address to an indicium, providing added choices for an indicium). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are

no surprise effects from the combination). Thus, the combination would have been obvious.

Whitehouse, Ryan, Jr. et al., and Pintsov et al. fail to disclose a processor for receiving a pristine digital image of said other printed material, and for processing said image to abstract characterizing information descriptive of aspects of said image from said image; applying each algorithm from a predetermined set of characterizing algorithms to generate a plurality of corresponding first characterizing information descriptors; determining estimates of robustness, with respect to said information being represented, for each of said algorithms in said set to determine which of said characterizing algorithms is most robust; wherein an optimal descriptor is a descriptor generated by one of the algorithms and being so determined to be most robust; and output said selected descriptor. Van Haagen et al. discloses a processor for receiving a pristine digital image of said other printed material, and for processing said image to abstract characterizing information descriptive of aspects of said image from said image (column 1, line 24, through column 2, line 26; columns 311-324); applying each algorithm from a predetermined set of characterizing algorithms to generate a plurality of corresponding first characterizing information descriptors (column 1, line 24, through column 2, line 26; columns 311-316); determining estimates of robustness, with respect to said information being represented, for each of said algorithms in said set to determine which of said characterizing algorithms is most robust (column 1, line 24, through column 2, line 26; columns 311-324); wherein an optimal descriptor is a descriptor generated by one of the algorithms and being so determined to be most

robust (column 1, line 24, through column 2, line 26; columns 311-324); and output said selected descriptor (column 1, line 24, through column 2, line 26; columns 311-324). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is simply specifying a particular method of determining which indicium is optimal). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 16**, Whitehouse, Ryan, Jr. et al., and Pintsov et al. fail to disclose wherein said processor is programmed for filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes; applying each algorithm from said predetermined set of characterizing algorithms to said filtered image to generate a plurality of corresponding

second characterizing information descriptors for said filtered digital image; and for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding said first and said second descriptors to determine which of said characterizing algorithms is most robust. Van Haagen et al. further discloses wherein said processor is programmed for filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes (column 1, line 24, through column 2, line 26; columns 311-316); applying each algorithm from said predetermined set of characterizing algorithms to said filtered image to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image (column 1, line 24, through column 2, line 26; columns 311-324); and for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding said first and said second descriptors to determine which of said characterizing algorithms is most robust (column 1, line 24, through column 2, line 26; columns 311-324). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is just getting more specific about how to determine optimum robustness). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the

number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 17**, Whitehouse, Ryan, Jr. et al., and Pintsov et al. fail to disclose wherein said processor is programmed for filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes; further filtering said filtered image with one or more defacing filters, said defacing filters simulating blots, smudges, failure of print elements or scanner sensors, or other, similar occasional events which can not easily be incorporated into said print/scan filter to create one or more defaced images; applying each algorithm from said predetermined set of characterizing algorithms to said filtered image and to said one or more defaced images to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image and one or more pluralities of defaced image descriptors corresponding to each of said one or more defaced images; and for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding first characterizing information descriptors with corresponding second characterizing information descriptors and with each of said one or more defaced image descriptors to determine which of said characterizing algorithms

is most robust. Van Haagen et al. further discloses wherein said processor is programmed for filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes (column 1, line 24, through column 2, line 26; columns 311-316); further filtering said filtered image with one or more defacing filters, said defacing filters simulating blots, smudges, failure of print elements or scanner sensors, or other, similar occasional events which can not easily be incorporated into said print/scan filter to create one or more defaced images (column 1, line 24, through column 2, line 26; columns 311-316); applying each algorithm from said predetermined set of characterizing algorithms to said filtered image and to said one or more defaced images to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image and one or more pluralities of defaced image descriptors corresponding to each of said one or more defaced images (column 1, line 24, through column 2, line 26; columns 311-324); and for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding first characterizing information descriptors with corresponding second characterizing information descriptors and with each of said one or more defaced image descriptors to determine which of said characterizing algorithms is most robust (column 1, line 24, through column 2, line 26; columns 311-324). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is just getting more specific about how to determine optimum robustness).

In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

12. Claims 5, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitehouse in view of Ryan, Jr. et al. in further view of Pintsov et al. in further view of Van Haagen et al. in further view of Ulvr et al., U.S. Patent No. 5,602,382.

As per **Claim 5**, Whitehouse, Ryan, Jr. et al., Pintsov et al., and Van Haagen et al. fail to disclose where said indicium further comprises information identifying said algorithm so determined. Ulvr et al. discloses where said indicium further comprises information identifying said algorithm so determined (abstract). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is simply specifying a particular field to include in an indicium, which is already used to store various data). In combination, each element merely would have

performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal; Ulvr et al.'s element would still perform the function of directing how the indicium should be interpreted). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 9**, Whitehouse, Ryan, Jr. et al., Pintsov et al., and Van Haagen et al. fail to disclose where said indicium further comprises information identifying said algorithm so determined. Ulvr et al. discloses where said indicium further comprises information identifying said algorithm so determined (abstract). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is simply specifying a particular field to include in an indicium, which is already used to store various data). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would

still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal; Ulvr et al.'s element would still perform the function of directing how the indicium should be interpreted). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

As per **Claim 13**, Whitehouse, Ryan, Jr. et al., Pintsov et al., and Van Haagen et al. fail to disclose where said indicium further comprises information identifying said algorithm so determined. Ulvr et al. discloses where said indicium further comprises information identifying said algorithm so determined (abstract). Therefore, the prior art included each element claimed although not necessarily in a single reference. One of ordinary skill in the art could have combined the elements as claimed by known methods (this is simply specifying a particular field to include in an indicium, which is already used to store various data). In combination, each element merely would have performed the same function as it did separately (Whitehouse's elements still provide the base concept of generating self-validating indicia; Ryan, Jr. et al.'s elements still perform the function of optimizing indicium readability; Pintsov et al.'s element would still provide the function of increasing the number of possible indicium choices; Van Haagen et al.'s elements would still perform the function of determining which indicium is optimal; Ulvr et al.'s element would still perform the function of directing how the

indicium should be interpreted). One of ordinary skill in the art would have recognized that the results of the combination were predictable (none of the combined elements interfere with the ability to use each element; there are no surprise effects from the combination). Thus, the combination would have been obvious.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. **Examiner's Note:** Examiner has cited particular portions of the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the applicant, in preparing the responses, fully consider

the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN ERB whose telephone number is (571) 272-7606. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on (571) 272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NATHAN ERB
Examiner
Art Unit 3628

Nhe

/John W Hayes/
Supervisory Patent Examiner, Art Unit 3628